

SONY

PDW-850

Professional Disc Camcorder



The PDW-850 is a powerful Professional Disc™ camcorder equipped with three newly developed 2/3-inch-type HD Power HAD FX™ CCDs. It provides outstanding picture quality with high resolution, high sensitivity, low noise, and wide dynamic range. Some of the new features include a large high-resolution color LCD viewfinder and GPS. The PDW-850 inherits excellent, versatile features from the PDW-F800 and PDW-700 XDCAM™ camcorders, but weighs less and consumes less power. Using an optional wireless adapter, the CBK-WA100, proxy files can be immediately transmitted to the broadcasting station. Also, an optional camera adapter with a CCU solution makes it studio-ready. The PDW-850 is an ideal choice for many different camera professionals, from those engaged in news gathering, when speed is the key concern, to those who produce TV programs and documentaries, when quality is crucial.

Functions

High Picture Quality

The PDW-850 incorporates three newly designed 2/3-inch-type HD Power HAD™ FX CCDs to achieve high resolution, wide dynamic range, high sensitivity of F11 (60i) and F12 (50i), and an excellent signal-to-noise ratio of 62 dB. It provides greater freedom of expression for creative shooting, even when shooting under severe lighting conditions. In addition to improving picture quality, Sony has been able to reduce the weight of the camera body to 4.2 kg (9.2 lbs) and its power consumption to 37 W.

Selectable Format and Bit Rates

This camcorder has a highly flexible multi-format recording capability. Operators can select Full-HD format (1920 x 1080) at up to 50 Mbps using MPEG HD422, as well as MPEG HD at 35 Mbps / 25 Mbps, or SD format MPEG IMX at 50 Mbps, and DVCAM at 25 Mbps in MXF file format (standard supported formats). Also, having an up/down conversion function, this camcorder can be integrated into an existing SD production system or can be chosen for future HD operation.

3.5-inch Color LCD Viewfinder

With a large, easy-to-read 3.5-inch QHD color LCD viewfinder as a standard accessory, the PDW-850 offers outstanding resolution of 960 x RGB x 540 pixels, strongly supporting critical focus control during HD shooting. The viewfinder cover can be flipped up to enhance visibility when the camcorder is set on a tripod.



Compatibility with Sony's Wireless Adapter

The PDW-850 is designed to support wireless operation using an optional wireless adapter, the CBK-WA100. Simply connect the wireless adapter to an SDI output. The wireless adaptor enables the crew to view live XAVC proxy video from the adapter using a tablet or smartphone. The low-resolution proxy files** created on the CBK-WA100 can be immediately transmitted back to the station or uploaded to the cloud environment for review and editing. The use of adapters can significantly reduce the time and cost of production and allow faster and cost-efficient network operations.

** File name of proxy data can be copied from hi-res data.



Expanded Solutions

With its GPS system, the PDW-850 can store geographical coordinates in MXF files along with the video/audio data and GPS log file. This is beneficial in post-production when tracing the shooting location. The PDW-850 also has a 50-pin interface to support a system camera solution with a CA/CCU via triax or fiber cable. The digital extender function enables an image to be digitally expanded two to four times in size without any loss of image sensitivity. Puck-Head is another standard feature enabling the recording of audio and video feed signals supplied by an external VTR/camcorder via HD/SD-SDI or composite.

XDCAM HD PowerHAD FX

MPEG HD422

MPEG HD

MPEG IMX

DVCAM



Specifications

PDW-450	
General	
Mass	Approx. 4.1 kg (body only) Approx. 9.1 kg (body) Approx. 6.2 kg (1.3 to 7.0) (with V.F. Mic. Dns. BP1503 battery) Approx. 5.9 kg (1.3 to 8.0) (with V.F. Mic. Dns. BP1505 battery)
Dimensions (W x H x D)**	124 x 259 x 322 mm (5 x 10.2 x 12.7 inches) (excluding protrusions, body only)
Power Requirements	DC 12 V +5.0 V 1.0 A
Power Consumption	Approx. 31 W (while recording, clear LCD on) Approx. 41 W (while recording with viewfinder, color LCD on, manual lens, microphone)
Operating Temperature	5°C to +40°C (33°F to 104°F)
Storage Temperature	20°C to 140°C (4°F to 134°F)
Humidity	10% to 90% (relative humidity)
Continuous Operating Time	Approx. 115 min with BP1503 battery Approx. 135 min with BP1505 battery
Recording Format (Video)	MPEG HD422 (CNR: 58 Mbps) MPEG HD - Hi mode (VFR: 35 Mbps max) - SP mode (CNR: 25 Mbps) - LP mode (VFR: 18 Mbps max) (playback only) MPEG IMX (CNR: 50 Mbps) DVCAM (CNR: 25 Mbps)
Recording Format (Audio)	MPEG HD422: 4 ch/24 bits/48 kHz MPEG HD: 4 ch/16 bits/48 kHz MPEG IMX: 4 ch/24 bits/48 kHz or 4 ch/16 bits/48 kHz DVCAM: 4 ch/16 bits/48 kHz
Recording Format (Phase Video)	MPEG-4
Recording Format (Phase Audio)	A-raw (4 ch/8 bits/8 kHz)
Recording/Playback Time (MPEG HD422)	50 Mbps Approx. 95 min (MPEG-DOLBY); Approx. 42 min (MPEG-2)
Recording/Playback Time (MPEG HD)	15 Mbps 4-ch audio: More than 145 min (MPEG-DOLBY); More than 65 min (MPEG-2) 15 Mbps 2-ch audio (playback only): More than 150 min (MPEG-DOLBY); More than 68 min (MPEG-2)
Recording/Playback Time (MPEG IMX)	25 Mbps 4-ch audio: Approx. 190 min (MPEG-DOLBY); Approx. 85 min (MPEG-2) 25 Mbps 2-ch audio (playback only): Approx. 200 min (MPEG-DOLBY); Approx. 90 min (MPEG-2) 18 Mbps 4-ch audio (playback only): More than 248 min (MPEG-DOLBY); More than 112 min (MPEG-2) 18 Mbps 2-ch audio (playback only): More than 265 min (MPEG-DOLBY); More than 122 min (MPEG-2)
Recording/Playback Time (DVCAM)	50 Mbps: Approx. 100 min (MPEG-DOLBY); Approx. 45 min (MPEG-2) 40 Mbps (playback only): Approx. 120 min (MPEG-DOLBY); Approx. 55 min (MPEG-2) 30 Mbps (playback only): Approx. 150 min (MPEG-DOLBY); Approx. 68 min (MPEG-2) 25 Mbps: Approx. 185 min (MPEG-DOLBY); Approx. 45 min (MPEG-2)
Recording/Playback Time (DVCAM)	MPEG HD422 50Mbps: 1920x1080 @59.94i, 29.97p, 50i, 25p, 23.98p 1280x720 @59.94p, 50p MPEG HD422 Hi 35Mbps: 4P 25Mbps: 1440x1080 @59.94i, 29.97p, 50i, 25p, 23.98p 1280x720 @59.94p, 50p MPEG HD422 LP 18Mbps: (Playback only for 1440x1080 @59.94i, 29.97p, 50i, 25p, 23.98p) MPEG IMX 50Mbps/DVCAM Mode: - 720 x 486 @59.94i/29.97p - 720 x 576 @50i/25p MPEG IMX 40Mbps/DVCAM Mode: (Playback only for) - 720 x 486 @59.94i/29.97p - 720 x 576 @50i/25p
Lens	
Lens Mount	2/3-inch type C-mount
Input/Output	
Composite Input	1 (Y) (x1); 1 (G) (x1); 1 (B) (x1)
Composite Input	1 (Y) (x1); 1 (G) (x1); 1 (B) (x1)
SD Input	1 (HD) (x1) HD-SDI SMPTE 292M (with embedded audio) SD-SDI SMPTE 292M (with embedded audio) 2 (HD) (x1) HD-SDI SMPTE 292M (with embedded audio) SD-SDI SMPTE 292M (with embedded audio) CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Audio Input	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Mic Input	50V (x1); 10V (x1)
Test Output	50V (x1); 10V (x1)
SD Output	1 (HD) (x1) HD-SDI SMPTE 292M (with embedded audio) SD-SDI SMPTE 292M (with embedded audio) 2 (HD) (x1) HD-SDI SMPTE 292M (with embedded audio) SD-SDI SMPTE 292M (with embedded audio) CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Audio Output	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Timecode Output	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Telephone Output	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Speaker Output	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
SD Input	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
SD Output	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Lens	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Release	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Light	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Camera Adapter	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Engine	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)
Viewfinder	CH-1/CH-2, XLR-type 5-pin (male stereo) (x1) 50V (x1); 10V (x1)

PDW-450	
Audio Performance	
Frequency Response	20 Hz to 20 kHz, -0.5 dB/100 Hz
Dynamic Range	More than 93 dB
Distortion	Less than 0.5% (at 1 kHz, reference level)
Noise	Less than 70 dB (at 1 kHz, reference level)
Wow and Flutter	Not measurable (ref)
Headroom	127 dB/52 dB (selectable)
Camera Section	
Image	3-chip 2/3-type HD PowerHD 1/3 CCDs
Effective Picture Elements	1920 (H) x 1080 (V)
Optical System	F1.4 optical system
Built-in Optical Filters	CC-A Glass, B, 3200K C, 4300K D, 6300K K0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 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1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693,